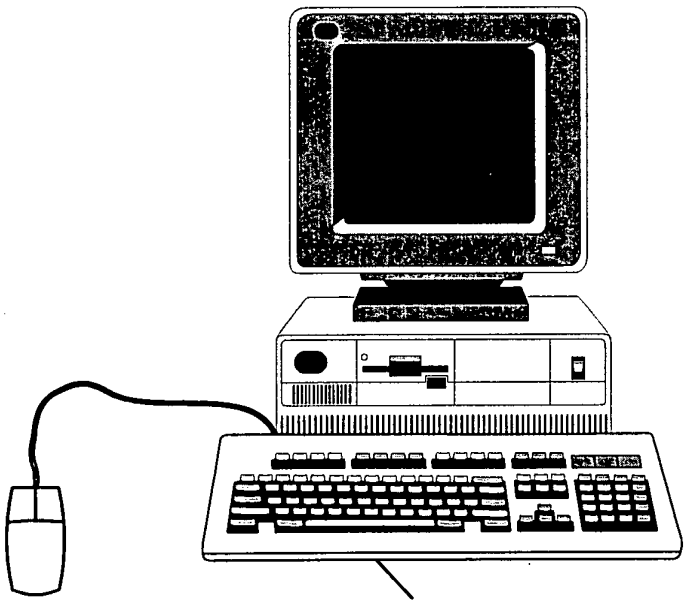

Computer System
82

Figure 1A

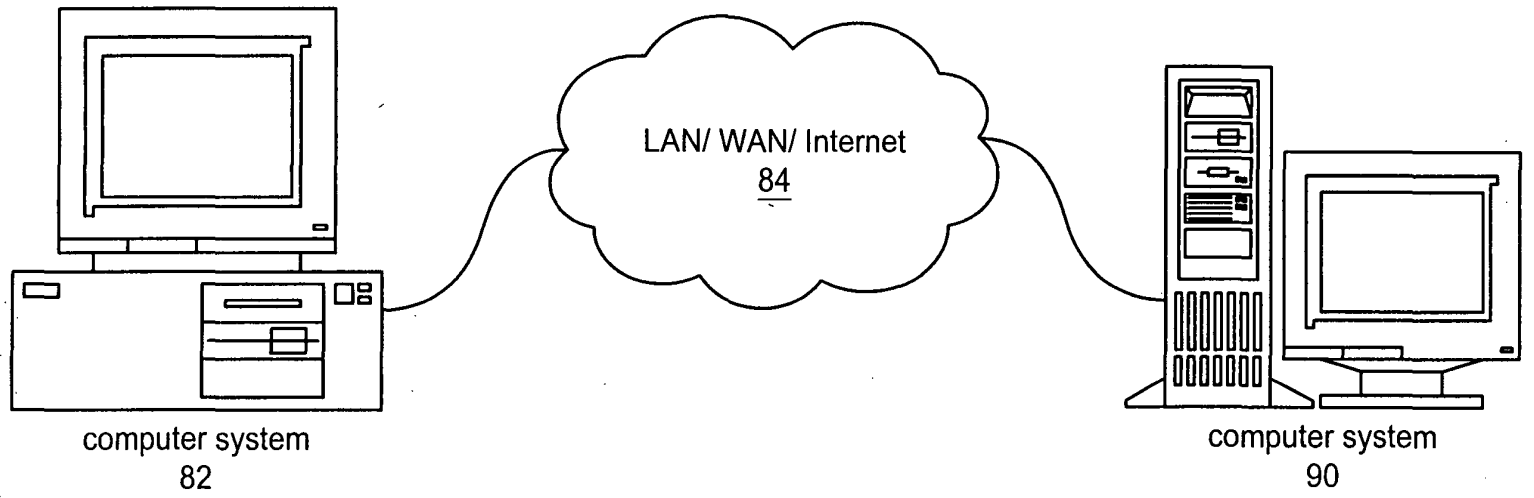

Figure 1B

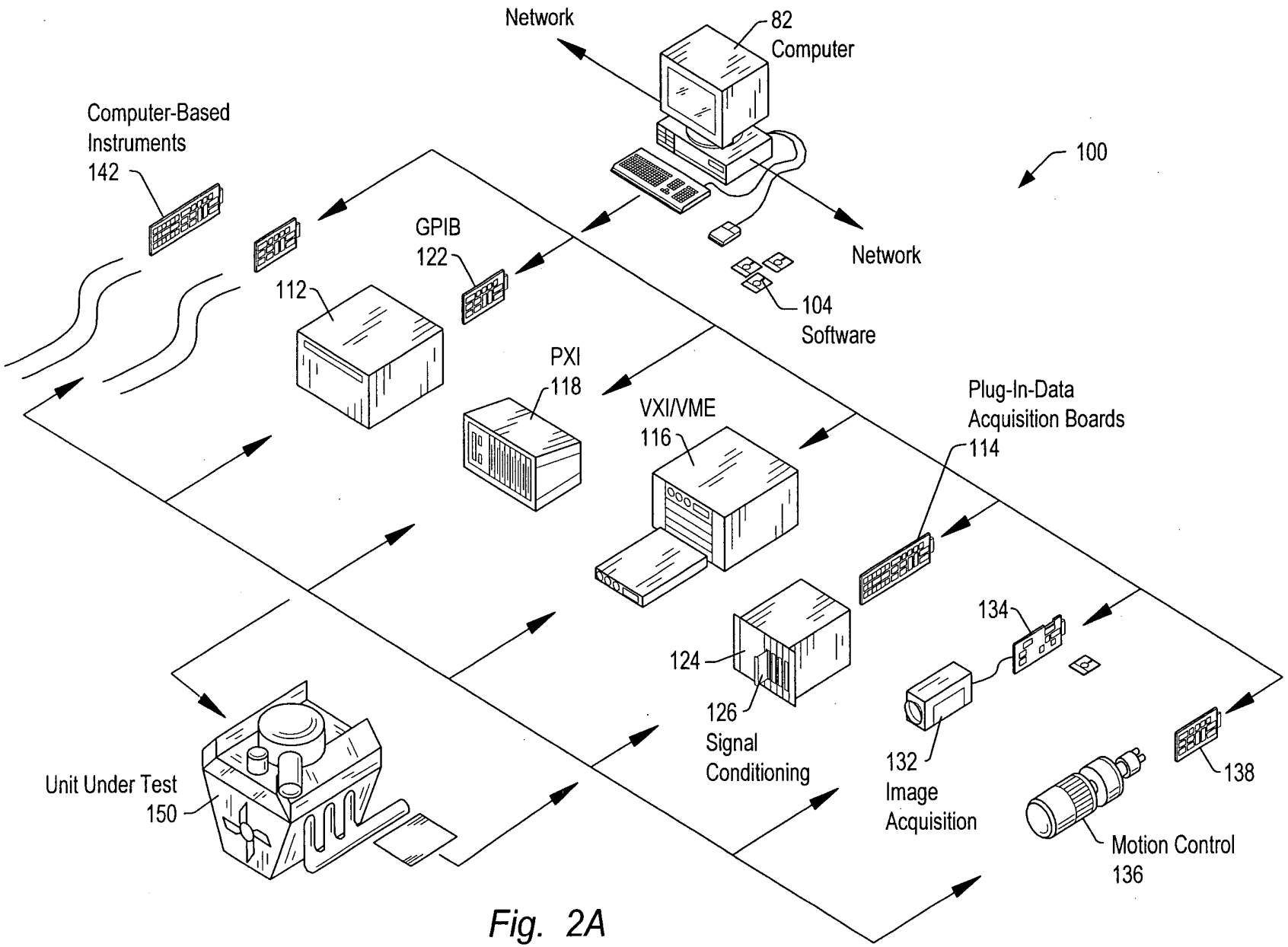
Network
82
Computer
Computer-Based
Instruments
142
100
GPIB
122
112
Network
104
Software
PXI
118
VXI/VME
116
Plug-In-Data
Acquisition Boards
114
134
124
126
Signal
Conditioning
132
Image
Acquisition
138
Unit Under Test
150
Motion Control
136

Fig. 2A

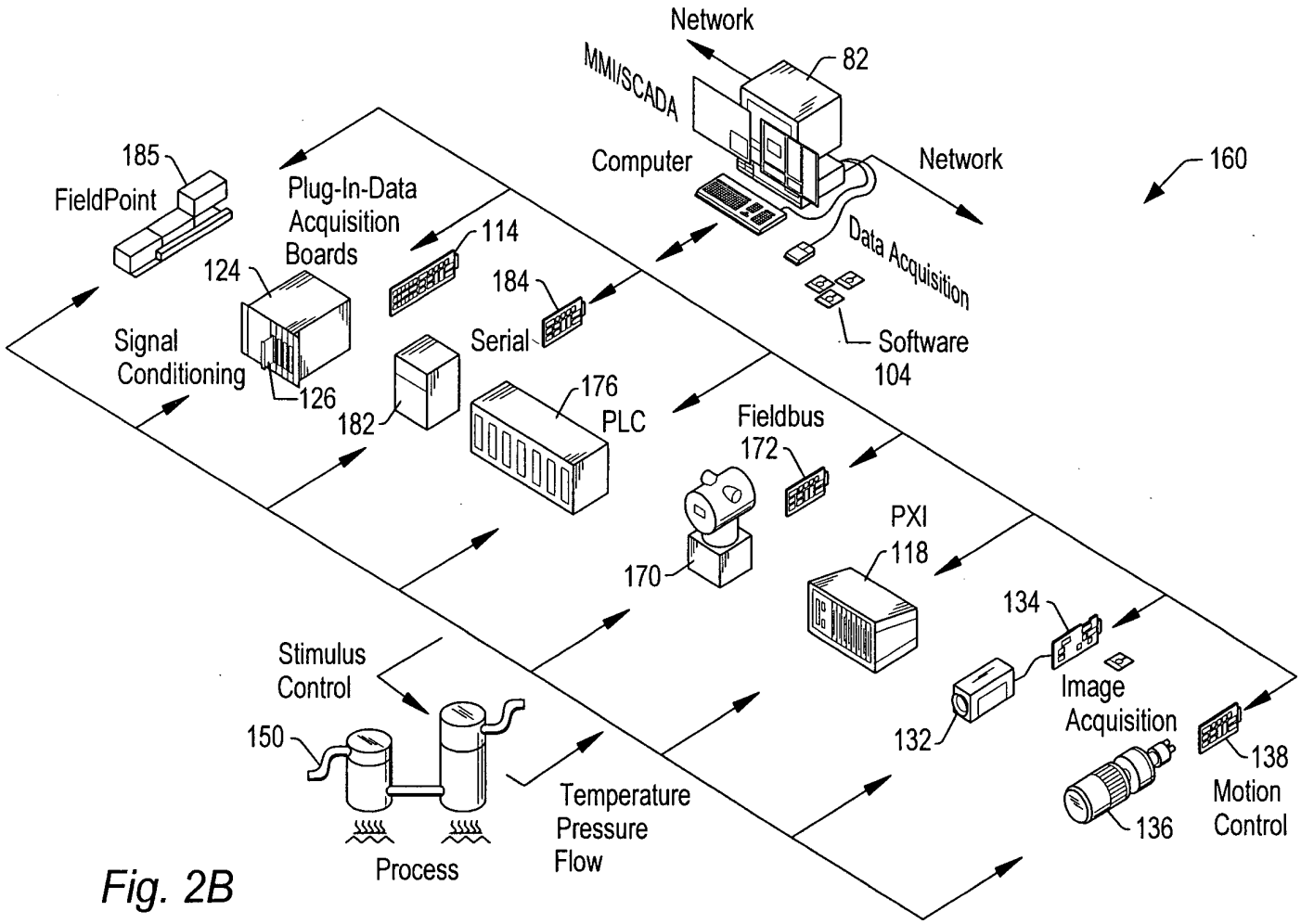
Network
MMI/SCADA
82
Computer
Network
160
185
FieldPoint
Plug-In-Data
Acquisition
Boards
114
124
184
Data Acquisition
Signal
Conditioning
Serial
Software
104
126
182
176
PLC
Fieldbus
172
PXI
118
170
134
Stimulus
Control
Image
Acquisition
150
132
138
Motion
Control
Temperature
Pressure
Flow
136
Process

Fig. 2B

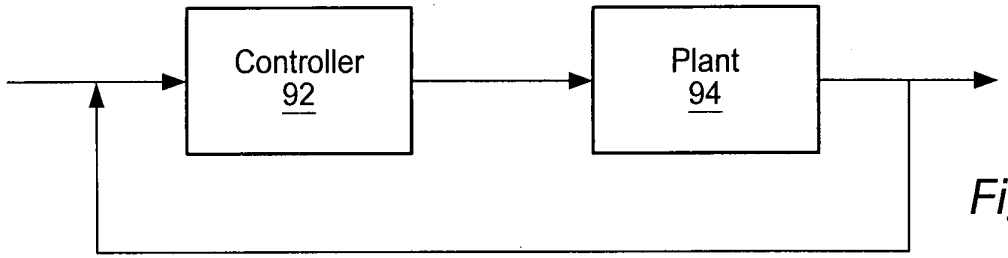

Figure 3A

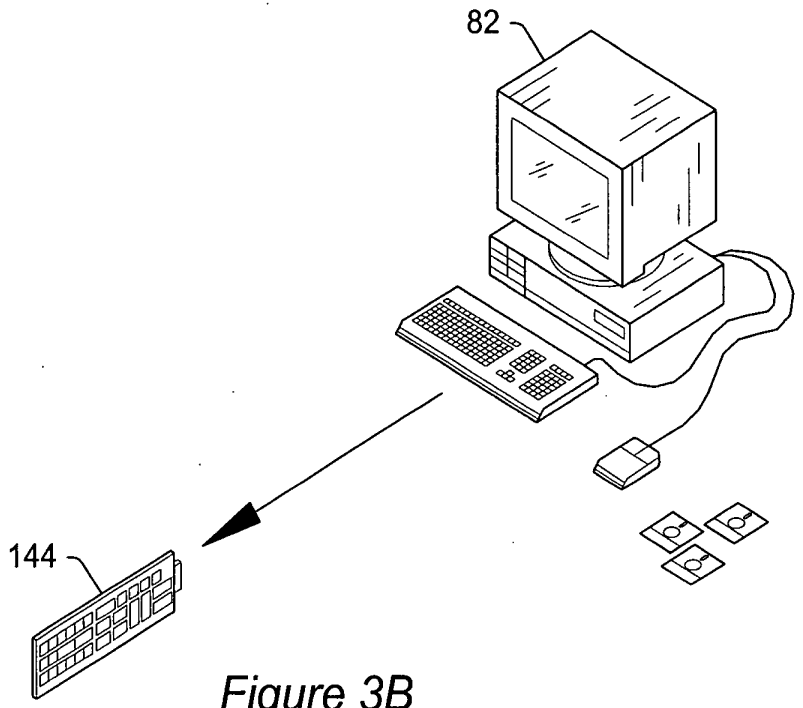

Figure 3B

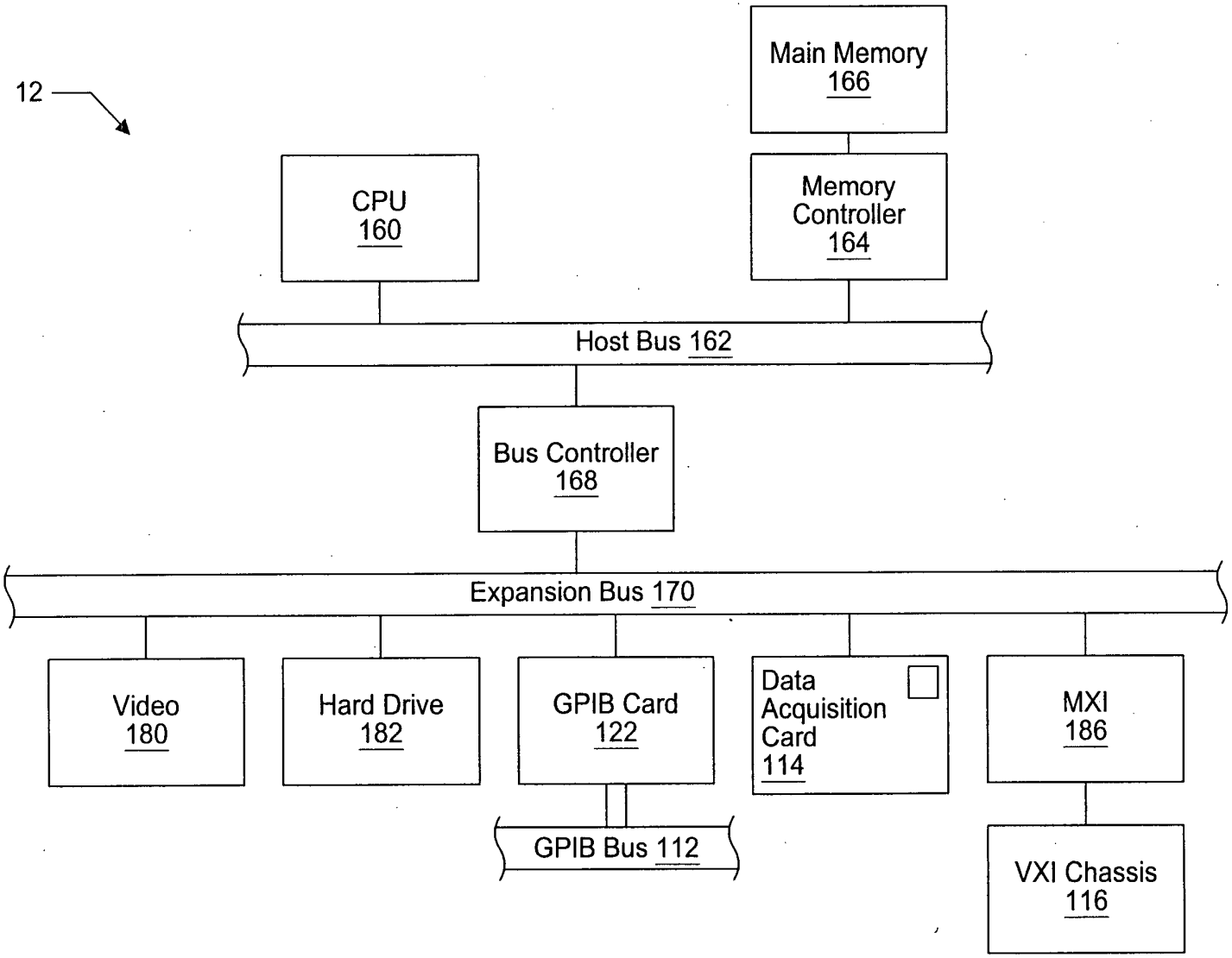
12
Main Memory
166
CPU
160
Memory
Controller
164
Host Bus 162
Bus Controller
168
Expansion Bus 170
Video
180
Hard Drive
182
GPIB Card
122
Data
Acquisition
Card
114
MXI
186
GPIB Bus 112
VXI Chassis
116

Figure 4

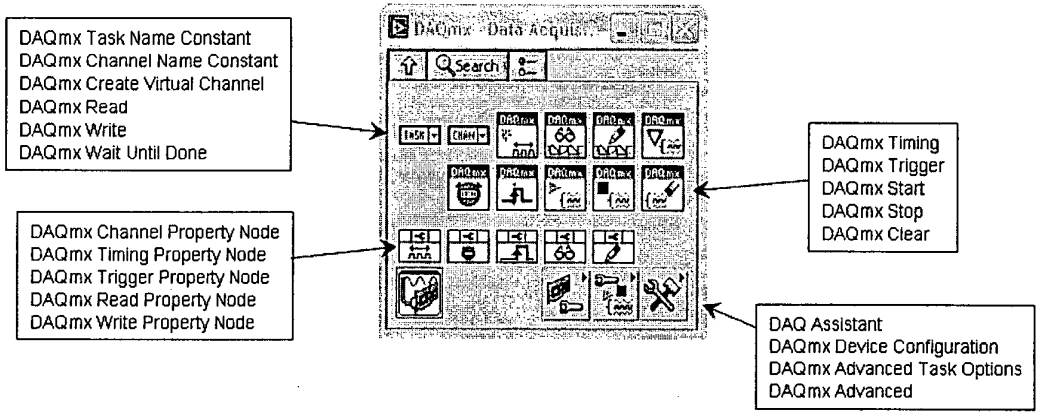
DAQmx Task Name Constant
DAQmx Channel Name Constant
DAQmx Create Virtual Channel
DAQmx Read
DAQmx Write
DAQmx Wait Until Done
DAQmx Channel Property Node
DAQmx Timing Property Node
DAQmx Trigger Property Node
DAQmx Read Property Node
DAQmx Write Property Node
DAQmx Timing
DAQmx Trigger
DAQmx Start
DAQmx Stop
DAQmx Clear
DAQ Assistant
DAQmx Device Configuration
DAQmx Advanced Task Options
DAQmx Advanced

Figure 5

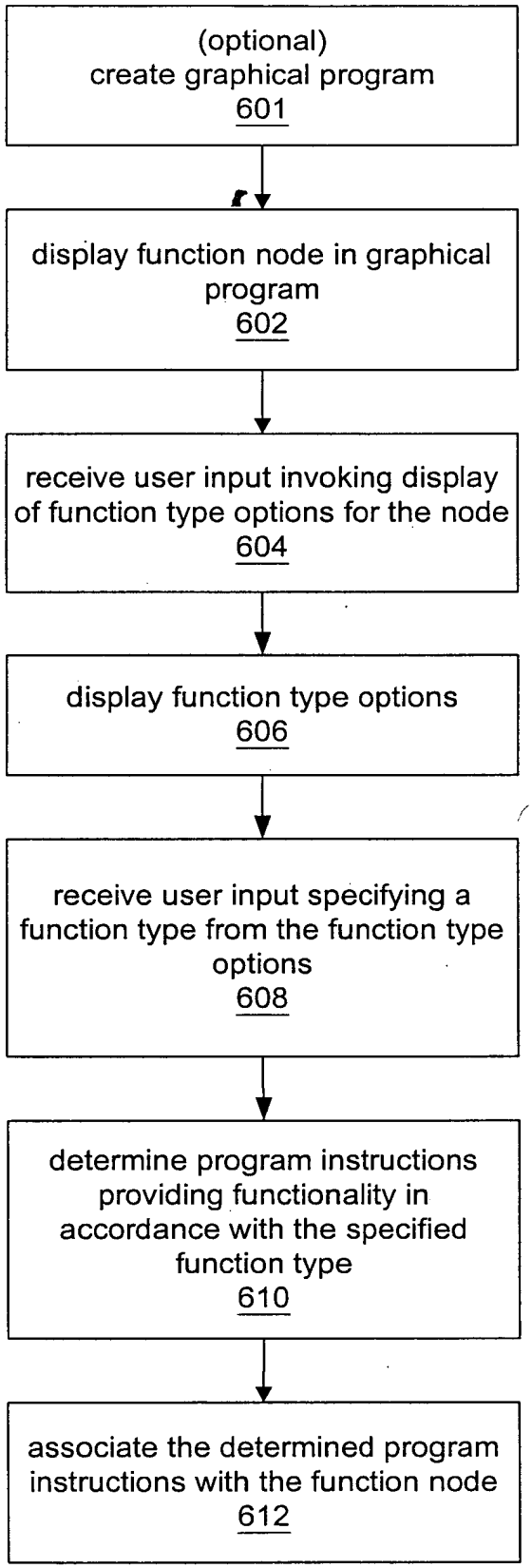
(optional)
create graphical program
601
display function node in graphical program
602
receive user input invoking display of function type options for the node
604
display function type options
606
receive user input specifying a function type from the function type options
608
determine program instructions providing functionality in accordance with the specified function type
610
associate the determined program instructions with the function node
612

Figure 6

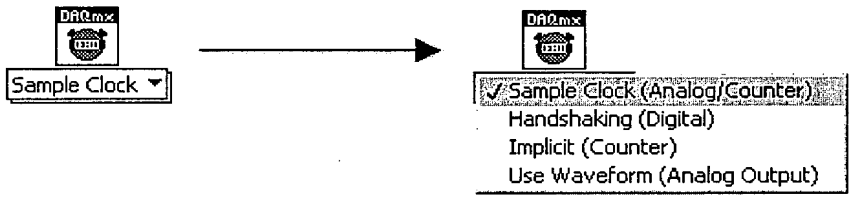

Figure 7A

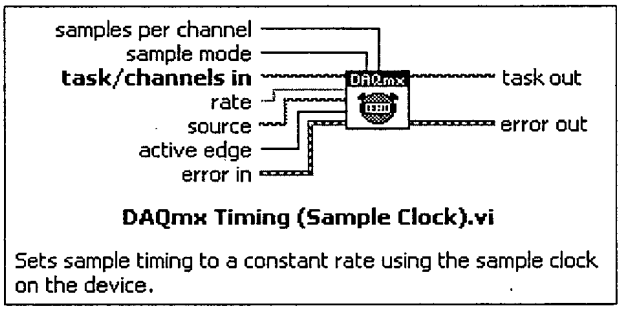

Figure 7B

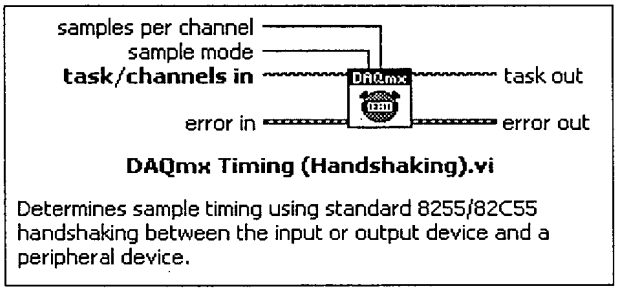

Figure 7C

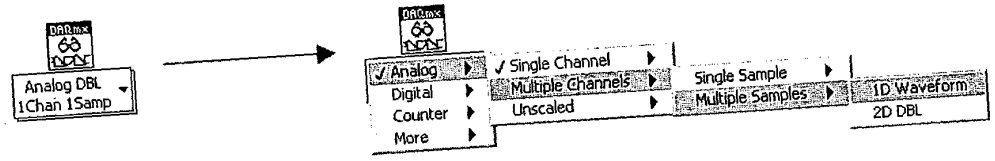
Analog DBL
1Chan 1Samp
✓Analog
Digital
Counter
More
✓ Single Channel
Multiple Channels
Unscaled
Single Sample
Multiple Samples
1D Waveform
2D DBL

Figure 8

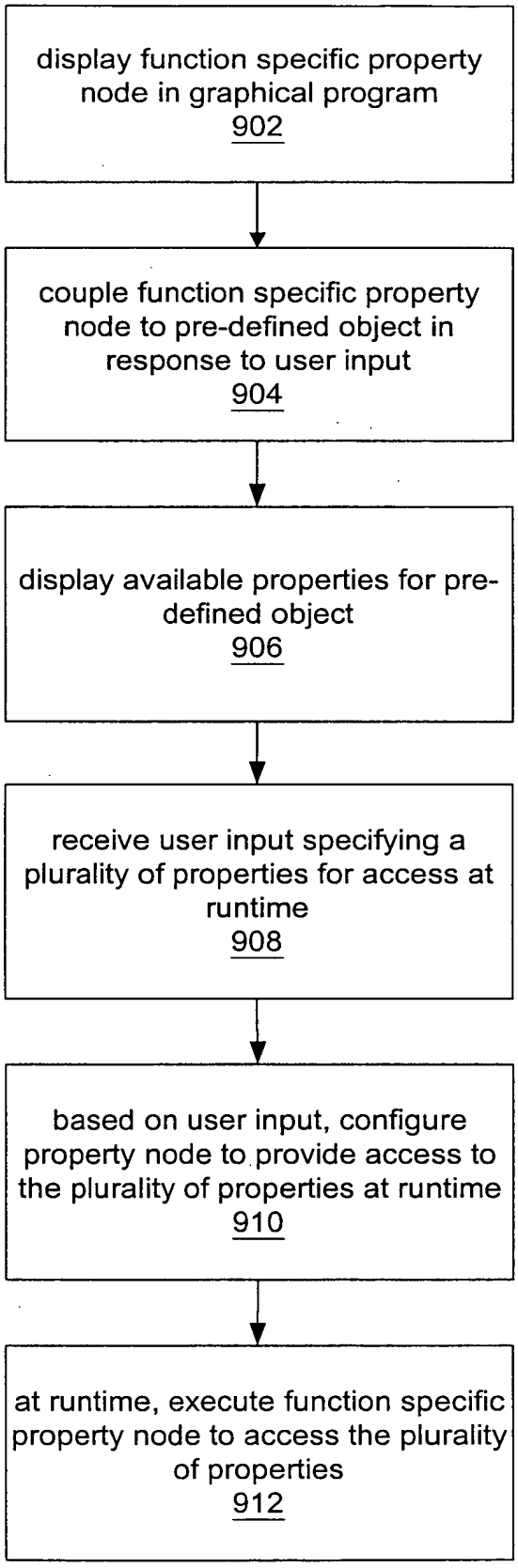
display function specific property node in graphical program
902
couple function specific property node to pre-defined object in response to user input
904
display available properties for pre-defined object
906
receive user input specifying a plurality of properties for access at runtime
908
based on user input, configure property node to provide access to the plurality of properties at runtime
910
at runtime, execute function specific property node to access the plurality of properties
912

Figure 9

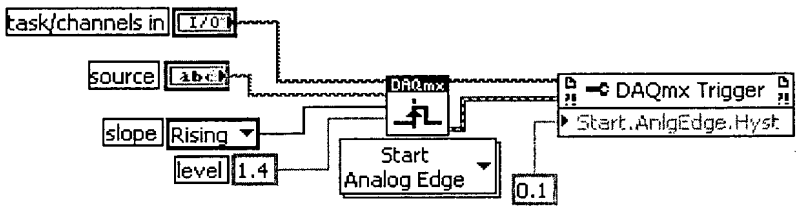

Figure 10

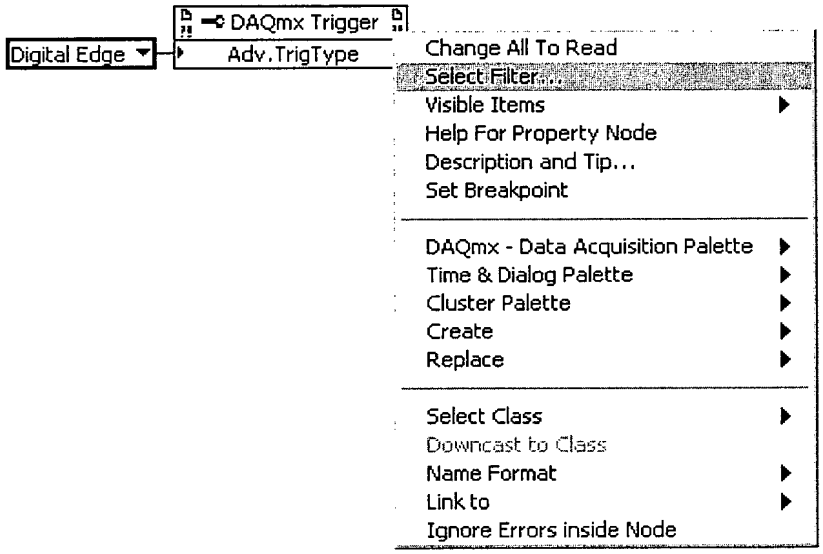

Figure 11

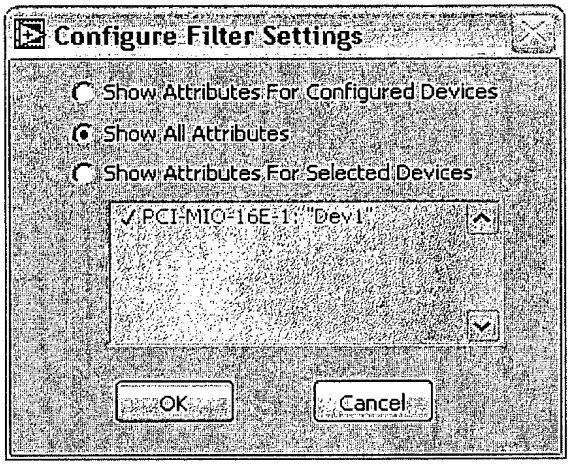

Figure 12

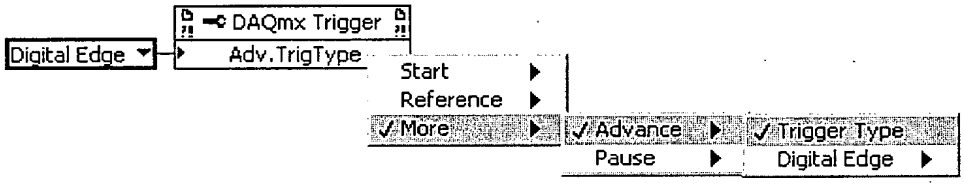

Figure 13

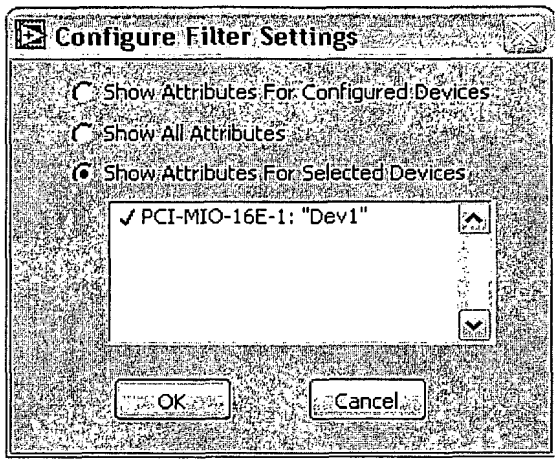

Figure 14

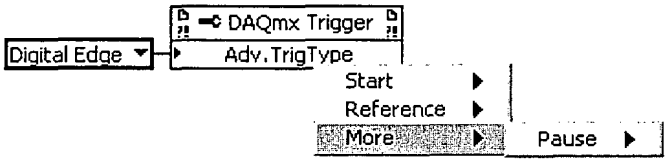

Figure 15